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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,221

12/01/2003

Hiroshi Kamohara

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EXAMINER

PENG, KUO LIANG

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/724,221	<b>Applicant(s)</b> KAMOHARA ET AL.	
	<b>Examiner</b> Kuo-Liang Peng	<b>Art Unit</b> 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 2/28/06 Amendment.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-9, 11-13, 15-17, 19-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-13, 15-17, 19-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The Applicants' amendment filed on February 28, 2006 is acknowledged. Claims 6, 10, 14 and 18 are deleted. Claim 22 is amended. Now, Claims 1-5, 7-9, 11-13, 15-17 and 19-23 are pending.
2. Claim rejection(s) under 35 USC 112 in the previous Office Action (Paper No. 122405) is/are removed.
3. Claim rejection(s) under 35 USC 103 as being unpatentable over Chikuni (US 5 768 414) in paragraph 9 of the previous Office Action (Paper No. 122405) is/are moot.

Chikuni discloses a polysiloxane cured by **peroxide**. The polysiloxane contains 5 mol% of diphenylsiloxane units. (Example 7) However, Chikuni does not teach a polysiloxane having **10 to 50 mol%** of diphenylsiloxane units. Furthermore, Chikuni does not teach **this particular polysiloxane** being cured by **hydrosilylation** or **condensation**.

Although Chikuni teaches other curing systems such as **hydrosilylation** or **condensation** (col. 2, lines 13-19), Chikuni does not teach or fairly suggest the use of a polysiloxane having **10 to 50 mol%** of diphenylsiloxane units or **20 to 50**

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**mol%** of methylphenylsiloxane units in these curing systems. Especially, Applicants show the **unexpected results** of diphenylsiloxane units in an amount of **more than 10 mol%**. For example, Example 9 (10 mol% diphenylsiloxane units) vs. Comparative Example 4 (3 mol% diphenylsiloxane units) demonstrates no separation of the polyether observed in Example 9. In addition, Example 17 (10 mol% diphenylsiloxane units) vs. Comparative Example 6 (0% diphenylsiloxane units) demonstrates lower contact angle observed in Example 17. It is noted that typically higher in phenyl content will result in a composition having more hydrophobicity (i.e., higher contact angle). However, in the instant systems, the contact angel is unexpectedly lower with higher phenyl content.

4. Claim rejection(s) under 35 USC 103 as being unpatentable over Oxman (US 5 415 544) in view of Chikuni in paragraph 11 of the previous Office Action (Paper No. 122405) is/are moot.

The instant rejection is moot because of the reason described in the previous paragraph.

5. The text of those sections of Title 35, U.S. code not included in this action can be found in prior Office Actions.

6. The following Office action is in response to the Remarks set forth in the Amendment filed on September 29, 2005.

7. As per Applicants' request (Remarks, page 8, 2<sup>nd</sup> paragraph), this Office action includes the reference US 6 762 242 in a Form PTO-892. Examiner apologizes for not including the instant reference in the prior Office action.

***Claim Rejections - 35 USC § 102 and 103***

8. Claims 1-5, 8-9, 16-17 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torto (WO 00/61074)

The following column and line numbers are based on Torto's US equivalent, US 6 762 242.

Torto discloses a dental impression composition comprising a Si-alkenyl functional polysiloxane (POS(1)), a Si-H containing polysiloxane (POS(2)) and a surfactant of polyalkylene oxide. (col. 1, lines 7-38, col. 3, line 24 to col. 4, line 3, col. 5, line 61 to col. 6, line 10 and Examples) POS(1) can comprise siloxy units of formula 1.1 and siloxy units of formula 1.2. (col. 7, line 1 to col. 8, line 56) Note that in POS(1), Z can be a methyl, ethyl or phenyl radical with as low as 60 mole%

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of Z being methyl radicals. (col. 7, lines 42-44) Furthermore, Z in formula 1.2 can be exemplified as methylphenylsiloxyl, diphenylsiloxyl and dimethylsiloxyl. (col. 7, lines 48-50) Therefore, Torto does teach that up to 40 mole% of the Z can be a phenyl group. The amount of the surfactant is described in col. 6, lines 50-60.

For Applicants' argument (Remarks, page 8, 3<sup>rd</sup> paragraph), as mentioned previously, the POS(1) can contain up to 40 mol% of phenyl groups. Thus, when POS(1) contains diphenylsiloxyl units, the POS(1) should have as high as 20 mol% of diphenylsiloxyl units. When POS(1) contains methylphenylsiloxyl units, then the POS(1) should contain up to 80 mol% of methylphenylsiloxyl units. Since the range of Torto's amount of the methylphenylsiloxyl units extensively overlaps with that of the present invention, a *prima facie* case of obviousness exists. "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003).

For Applicants' argument (Remarks, page 9, last paragraph bridging to page 10, first paragraph), note that Torto teaches that the contact angle of the composition can be **less than** 80°, such as 61.1°. (col. 14, lines 36-46 and 61-63) Therefore, Torto obviously teaches a composition having **less than** 61.1° that is substantially overlap with the contact angle range set forth in the present invention.

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As such, a *prima facie* case of obviousness exists. "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003).

8. Claims 1-2, 4, 7-8, 11-13, 15-16, 19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitzsche (US 3 070 566) in view of Bryan (US 4 657 959) or Chikuni.

Nitzsche in view of Bryan or Chikuni discloses a composition for dental application or building member application as described in paragraph 10 of the prior Office action (Paper No. 062505).

For Applicants' argument (Remarks, page 8, 3<sup>rd</sup> paragraph), the amount of the phenyl group in Nitzsche's diorganopolysiloxane can be exemplified in Examples, such as Examples 4 and 5 where the amount of phenylmethylsiloxane units can be 24.5 mol% or 45 mol%. Furthermore, as mentioned in the previous Office action (Paper No. 062505), it is obvious to add Bryan's polyether in Nitzsche's composition in order to decrease the water angle of the composition. Bryan further teaches the use of the polyether in a sufficient amount to afford a composition having a water contact angle of below about 65°, preferably below

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45°, more preferably below about 30°, and most preferably below about 10°. (col. 3, lines 10-29) Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to incorporate into Nitzsche's composition the polyether in an amount to afford a composition having a water contact angle of below about 65°, preferably below 45°, more preferably below about 30°, and most preferably below about 10°.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR



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klp  
May 11, 2006



Kuo-Liang Peng  
Primary Examiner  
Art Unit 1712